Department of the Army

Record of Decision

Three Oaks Mine Permit Application

Applicant: Alcoa Inc.
P.O. Box 1491
Rockdale, Texas 76567

Application Number: 199900331

This document constitutes the U.S. Army Corps of Engineers (USACE), Fort Worth District, Record of Decision (ROD) for the application by Alcoa Inc. for a Department of the Army permit under Section 404 of the Clean Water Act to discharge dredged and fill material into waters of the United States (U.S.) in conjunction with the construction and operation of the Three Oaks Mine. This ROD is based on the analyses of direct, indirect, and cumulative impacts in the Three Oaks Mine Environmental Impact Statement (EIS). In compliance with the National Environmental Policy Act (NEPA), this ROD identifies: the key factors considered in the USACE's decision, the alternatives considered and the environmentally preferred alternative, monitoring programs and mitigation measures, and the USACE's decision relative to the Proposed Action.

I. INTRODUCTION

The USACE regulates the discharge of dredged and fill material into waters of the U.S. in accordance with Section 404 of the Clean Water Act and 33 Code of Federal Regulations (CFR) Parts 320-331. The USACE also regulates any work in or affecting navigable waters of the U.S. in accordance with Section 10 of the River and Harbors Act of 1899. The applicant, Alcoa Inc., proposes to discharge fill material into approximately 67.4 acres of waters of the U.S. associated with the construction and operation of a surface lignite mine. Because the proposed project would result in discharges of dredged and fill material into waters of the U.S., Alcoa Inc. must obtain a Section 404 permit from the USACE.

The mine site is located approximately 5 miles east of Elgin, in Bastrop County, Texas, and 11 miles southwest of Lexington, in Lee County, Texas. The purpose of the project is to provide a long-term economically stable fuel supply for the existing power generation station, which supplies power for the applicant's aluminum smelter. Both facilities are located in Rockdale, in Milam County, Texas. The Three Oaks Mine does not involve work in navigable waters of the U.S. subject to Section 10 jurisdiction. Therefore, a Section 10 permit is not required for this project.

II. ADMINISTRATIVE HISTORY

On October 20, 2000, the USACE received a permit application from the applicant to discharge dredged and fill material into waters of the U.S. associated with the construction and operation of the proposed Three Oaks Mine. The USACE reviewed the submitted information, in accordance with the NEPA of 1969, the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the NEPA (40 CFR 1500-1508) and the USACE Environmental Quality: Procedures for Implementing the NEPA (33 CFR 230 and 325). Construction and operation of the proposed Three Oaks Mine is not a federal action but rather a private action subject to federal regulatory controls. However, the USACE made the determination that it had sufficient authority over the project associated with the required Section 404 permit to essentially federalize the project. In June 2001, the USACE determined that the permit decision for the project is a major federal action with the potential to significantly affect the quality of the human environment, and the preparation of an EIS was required. In accordance with 33 CFR Part 325, Appendix B, and the Memorandum For Commanders, Major Subordinate Commands, and District Commands, dated December 17, 1997, which provides Guidance on Environmental Impact Statement Preparation, the USACE elected to use a third-party contractor to assist in the preparation of the EIS. The third-party contractor arrangement refers to the preparation of an EIS by a contractor who is paid by the applicant, but who is selected and directly supervised by the USACE. ENSR Corporation was selected by the USACE as the third-party contractor based on their NEPA expertise and experience.

On July 19, 2001, the USACE published a Notice of Intent to prepare an EIS in the *Federal Register*. On July 20, 2001, the USACE distributed a public notice with a 60-day comment period to adjacent landowners and other interested parties, informing the public of the proposed project and of an upcoming scoping meeting. The USACE also published advertisements in local newspapers informing the public of the scoping meeting. On August 21, 2001, in Giddings, Texas, the USACE conducted an EIS public scoping meeting for the purpose of providing additional information on the project to the interested public and soliciting information from the public on issues that should be addressed in the EIS. On August 22, 2001, September 26, 2001, and October 11, 2001, the USACE held agency coordination meetings for the purpose of soliciting agency scoping comments and additional information. These meetings included participation from the following agencies: U.S. Environmental Protection Agency (USEPA), U.S. Fish and Wildlife Service (USFWS), U.S. Geological Survey, Office of Surface Mining, the Texas Commission on Environmental Quality (TCEQ), and Texas Parks and Wildlife Department. Based on public and agency written comments and dictated and transcribed oral comments, the USACE prepared and distributed a Scoping Summary, which was made available on November 1, 2001.

The USACE continued to coordinate with all appropriate agencies and members of the public throughout the preparation of the Draft Environmental Impact Statement (DEIS) and Final Environmental Impact Statement (FEIS). Throughout this process, the USACE required the applicant to provide basic project information, in addition to environmental baseline studies and previous analyses, for USACE use in preparing these documents. The USACE, assisted by the third-party contractor, evaluated for accuracy all information provided by the applicant and the applicant's consultants. The USACE has independently reviewed and evaluated this information, and to the extent this information was used in the NEPA and Section 404 analyses, the USACE has determined that the information is appropriate and adequate.

On August 23, 2002, a Notice of Availability of the DEIS was published in the *Federal Register* and was announced in a public notice that the USACE sent to all interested parties. The USACE initially established a 60-day comment period for the DEIS, and subsequently extended the comment period for 14 additional days based on requests from a number of individuals and organizations.

The USACE also held a public information meeting on October 1, 2002, and a formal public hearing on October 2, 2002, to solicit comments on the DEIS; both meetings were held at the Elgin High School. Court reporters were present at both meetings to record oral comments, and a translator was present at the public hearing to translate Spanish comments into English for the court reporter. As result of the public meeting, an interest in a Spanish translation of project information was identified. Consequently, the USACE prepared a Spanish version of the handout and made the document available to the general public. The Spanish version of the handout was included in updated information relative to the 2-week extension of the DEIS comment period and was provided to a Spanish translator in Elgin for distribution to interested members of the Spanish-speaking community.

Seventy individuals presented comments at the formal public hearing, and a total of 88 additional comments were received prior to the close of the comment period for the DEIS. The 88 comments included both written comments and oral comments provided to the court reporter. The USACE reviewed all comments on the DEIS in their entirety and considered all comments in the review of the project and in preparation of the FEIS. On May 9, 2003, the USACE published a Notice of Availability of the FEIS in the *Federal Register*, issued the FEIS, and issued a public notice regarding the availability of the FEIS that was distributed to all interested parties. In the *Federal Register* Notice and the public notice, the USACE established a 45-day comment period for the FEIS. The FEIS was prepared in an abbreviated format, to be used in conjunction with the DEIS. The complete FEIS is comprised of the unrevised pages of the DEIS in addition to the two-volume FEIS. The USACE has considered all public comments on the DEIS and FEIS in preparing this ROD.

III. PROJECT PURPOSE AND NEED

The basic purpose of the project is lignite mining. The overall purpose of the Three Oaks Mine is to provide a long-term, economically stable fuel supply for the existing Rockdale power generating station, which supplies power for the applicant's Rockdale aluminum smelter. This need is currently being met by lignite mined from the applicant's existing Sandow Mine. However, mining activities at the Sandow Mine are approaching the limits of safe and economically viable operation.

IV. PROJECT DESCRIPTION (APPLICANT'S PREFERRED ALTERNATIVE)

The proposed Three Oaks Mine would be located on an approximately 16,062-acre site in Lee and Bastrop Counties, Texas, approximately 6 miles southwest of the applicant's existing Sandow Mine. In undertaking this project, the applicant seeks to mine approximately 7.0 million tons of lignite annually for a period of 25 years, with a total estimated earth disturbance of 8,648 acres over the life of the mine. The project would involve a number of activities associated with the construction and operation of the mine. These activities would include the following: installation of perimeter fences; clearing of vegetation from several hundred acres each year; construction of support facilities including offices, parking lots, maintenance areas, access roads, aboveground fuel and lubricant storage areas, and wastewater treatment facilities; construction of haul roads, 13 public road reroutes, and utility reroutes; construction of surface water control facilities such as rip-rap channels, check dams, sediment ponds, and temporary diversions; installation of erosion control devices; pumpage of approximately 11,000 acre-feet of groundwater per year from the Simsboro aquifer to depressurize areas below lignite seams; pumpage of approximately 300 to 1,300 acre-feet of groundwater from the Calvert Bluff aquifer to dewater areas above lignite seams; dragline excavation of mine pits to depths of 250 feet, with pits varying in length from 2,000 to 10,000 feet, to recover lignite seams, ranging in thickness from 1 to 12 feet, from the Calvert Bluff Formation; selective stockpiling of the overburden; removal of the exposed lignite from the pit; crushing of lignite to a size of 6-inches or less; blending of lignite; transport of the blended lignite via an overland conveyor or 90-ton long-haul trucks to the existing Rockdale power generating facilities; selective replacement of overburden and soil materials in the previously mined pits; to the maximum extent practicable, grading and reshaping the previously mined areas to restore pre-construction topography; revegetation of the regraded areas; construction of spillways for the two end lakes totaling 722 acres, which would result from the creation of topographic depressions; and final closure and reclamation of ancillary facilities.

As a result of the NEPA analysis conducted for the DEIS and FEIS, the applicant has incorporated into the Proposed Action a series of additional environmental protection and mitigation measures, which can be found in the FEIS on pages 2-67 to 2-78c and in the Mitigation Plan for the proposed Three Oaks Mine, Lee and Bastrop Counties, prepared by Horizon Environmental Services, Inc., dated August 1, 2003 (Mitigation Plan). A more detailed discussion of the applicant's preferred alternative can be found in the DEIS

on pages 2-15 to 2-78 and in the FEIS on pages 2-17, 2-19, 2-21 to 21a, 2-27, 2-32, 2-34 to 2-35, 2-37 to 2-41, 2-43 to 2-44, 2-49, 2-61 to 2-63, and 2-66 to 2-78c.

In 1998, the applicant entered into a long-term water supply contract with the San Antonio Water System (SAWS) to provide 40,000 to 66,000 acre-feet of water per year from lands owned by the applicant and San Antonio City Public Service (CPS). The term of the water supply contract is from 2013 to 2038, with a possible 40-year extension. The applicant would provide up to 40,000 acre-feet per year from wells located in the Sandow Mine in the Simsboro Formation. Concurrently, CPS entered into a separate water supply contract with SAWS to provide up to 15,000 acre-feet of water per year from CPS properties within the Three Oaks Mine. Additional information relating to these contracts is presented on page 2-82 of the FEIS. The SAWS contract is a potential action entirely independent from the Three Oaks Mine. This potential action, in addition to other past, present, and reasonably foreseeable future actions, has been considered in the EIS impact analysis for each resource. For these evaluations, the USACE has assumed that the groundwater pumped for SAWS would be conveyed via a pipeline directly from the well field to San Antonio without being discharged into the surface water tributary system.

V. SCOPE OF ANALYSIS

The basic purpose of the project is lignite mining. The overall purpose of the Three Oaks Mine is to provide a long-term, economically stable fuel supply for the existing Rockdale power generating station, which supplies power for the applicant's Rockdale aluminum smelter. In accordance with 40 CFR Parts 1500-1508, 33 CFR Part 230 and Part 325 Appendix B, 33 CFR Part 320-331, and 40 CFR Part 230, the USACE identified the permit area for the project as the 16,062-acre site in addition to 6 acres of disturbance associated with proposed road relocations that would occur outside of the identified 16,062-acre site. The effects of the applicant's preferred alternative on various resources were analyzed in detail in the DEIS on pages 3.1-1 to 3.18-3 and in the FEIS on pages 3.1-12 to 3.18-3. The USACE determined the affected environment for individual resources based on the area of potential direct and indirect environmental impacts associated with the applicant's preferred alternative. For some resources, such as geology and soils, the USACE determined the affected area to be the physical location and immediate vicinity of areas that would be disturbed. For other resources, such as water resources, air quality, and socioeconomic values, the affected environment comprised a larger area.

VI. ALTERNATIVES (33CFR 320.4[b][4] AND 40 CFR 230.10)

A. Alternatives Available to the USACE: In accordance with 33 CFR Part 325.9 (5), the USACE is neither an opponent nor a proponent of the applicant's proposal; therefore, the applicant's final proposal is identified as the applicant's preferred alternative. The USACE has three alternatives relative to the applicant's preferred alternative. The three alternative actions available to the USACE are: 1) issue the permit; 2) issue the permit with special conditions; or 3) deny the permit. Permit denial is identified and described in the DEIS as the No Action Alternative, described in detail in

the DEIS on pages 2-1 to 2-4. In accordance with 33 CFR Part 320.4(b)(4) and 40 CFR 230.10, the USACE performed an evaluation of alternatives, as described below.

B. No Action Alternative: Under the No Action Alternative, the USACE would deny the Section 404 permit for the applicant's preferred alternative. As a result, the proposed Three Oaks Mine would not be developed, and the potential impacts to the natural or human environment associated with the applicant's preferred alternative would not occur. It should be noted that under the No Action Alternative, existing direct, indirect, and cumulative impacts would likely continue to occur, as described in Chapter 3.0 of the DEIS and FEIS. Implementation of the No Action Alternative would not meet the applicant's stated project purpose and need. However, the No Action Alternative must be evaluated since the USACE cannot issue a Section 404 permit if the issuance of such a permit would be contrary to the public interest and/or would not comply with the Section 404 (b)(1) guidelines.

The No Action Alternative is also included in the analysis in accordance with NEPA and serves as the basis for comparison of environmental impacts associated with other alternatives. The applicant has determined that the No Action Alternative would likely cause the applicant to terminate operations at the existing aluminum smelter. This action, however, would not necessarily result in closure of the existing power generating facilities, as these facilities could be converted to accommodate the use of western coal for public utility customers. Although such a conversion would result in higher costs, such costs could be passed on to consumers on the electrical grid.

C. Alternatives Available to the Applicant: Alternatives available to the applicant include alternatives to constructing and operating the Three Oaks Mine that would involve the use of alternate energy sources for the power plant and smelter; alternate plans for constructing, operating, and reclaiming the Three Oaks Mine; and using a combination of lignite recovered from the Three Oaks Mine and another fuel source (e.g., western coal) as a blended fuel source (DEIS pages 2-4 through 2-15 and FEIS pages 2-9 and 2-10). All of these alternatives were considered by the applicant with respect to their technological and economic feasibility, in addition to the potential beneficial and adverse environmental impacts of each. The USACE has reviewed the data and analyses provided by the applicant and has conducted an independent evaluation of the associated costs. Upon reviewing available data relative to these alternatives, the USACE determined that based on technological and economic considerations, these alternatives would not be carried through the detailed analysis. The following is a brief description of these alternatives.

D. Alternatives Not Requiring Construction of the Three Oaks Mine: A number of alternatives were considered that would not require construction of the Three Oaks Mine. These include the purchase of electricity from the commercial grid; use of alternate lignite sources, including evaluation of several nearby sites containing lignite reserves or coal from the western U.S., to fuel the existing power plants, and the use of natural gas to fuel the existing power plants after the existing boilers were appropriately modified. Primary considerations relative to these alternatives included the following:

1) The purpose of the Proposed Action is to provide a long-term economically stable fuel supply for the existing Rockdale power generating station, which supplies power for the applicant's Rockdale aluminum smelter. (The purpose of the project is to provide fuel for aluminum production, not for generating power.) 2) Aluminum is traded as a commodity on the world market, and its price reflects global conditions. To remain in operation, the applicant's Rockdale smelter must produce aluminum that is competitive in the world market. 3) Because smelting is a highly energy consumptive operation accounting for approximately one-third of the total production cost of aluminum, the cost of electricity is critical to the viability of aluminum production. 4) Local lignite is the only fuel source that is controlled by the applicant. As such, in addition to the low initial costs, the costs can be held stable for decades, in contrast to recent cost trends of other energy sources, which are typically variable with trends of upward cost increases occurring in relatively short periods of time (Section 2.4.1 of the DEIS and pages 2-9 and 2-10 of the FEIS).

E. Alternatives for Construction and Layout of the Three Oaks Mine: The USACE also considered alternatives for construction and operation of the proposed Three Oaks Mine. These alternatives included several alternate mine layouts and sequencing alternatives that would allow for development of the Three Oaks Mine in a plan that would differ from the applicant's preferred alternative. The following specific alternatives, relative to this overall category were considered: 1) alternate mine pit orientations; 2) alternate mine layout and road relocations; 3) lignite transport alternatives; 4) ancillary facility alternatives including water reuse and disposal and aquifer reinjection/reinfiltration into the Simsboro outcrop; and 5) fuel blending alternatives (Sections 2.4.2 and 2.4.3 of the DEIS). Relative to the evaluation of alternate mine pit orientations, mine layouts, and road relocations, the USACE has determined that unlike many projects that could be readily redesigned to avoid or minimize resource impacts, projects that involve the recovery of mineral resources have two main constraints that dictate the location and extent of earth disturbance. These constraints, which limit an applicant's ability to avoid and/or minimize resource impacts, include the specific location of the mineral resource being sought and the large expanses of land required for staging, stockpiling, and establishing surface water control facilities, transportation corridors, and other activities.

VII. IMPACT ASSESSMENT AND FACTUAL DETERMINATIONS (40 CFR § 230.11)

The following is a summary of the potential short-term and long-term effects of the proposed discharge of dredged and fill material on the physical, chemical, biological, and human use characteristics and components of the aquatic environment.

A. Physical and Chemical Characteristics and Anticipated Effects (Subpart C):

1. Substrate: The substrate of streams that would be filled consists of sandy to silty sandy alluvium with occasional sandstone surface rock. Ponds and wetlands that would be filled comprise a combination of silt clay loams to clay with minor components of woody debris and occasional surface rock. The streams, ponds, and wetlands would

be filled with on-site dredged material (overburden and interburden). This work would eliminate the current stream, pond, and wetland substrate. During reclamation, selective handling of overburden and conformance with the compensatory Mitigation Plan would ensure that restored streams, ponds, and wetlands would be restored with substrate conditions similar to those that existed prior to disturbance (Sections 3.2.4.2 and 3.2.5.2 of the DEIS and FEIS). A special condition could be added to any permit issued that would require implementation of the Mitigation Plan.

2. Currents, Circulation, or Drainage Patterns: The excavation, filling, and relocation of approximately 38 miles (23.6 acres) of ephemeral and intermittent streams, approximately 150 ponds (77.1 acres), and a number of emergent wetlands totaling 5.3 acres, in addition to the construction of surface water control structures would substantially alter the circulation and drainage patterns of the project site. These filling activities would occur in phases, and the removal of surface water features would be offset, at least in part, by the restoration of streams, ponds, and wetlands in previously mined areas, in addition to the creation and enhancement of other surface water resources. Watershed modifications associated with the proposed project would result in the control of runoff from 6.4 square miles of Chocolate Creek and 8.9 square miles of upper Willow Creek. These effects are described in detail on Section 3.2.4.2 of the DEIS and FEIS and Section 4.5.5 of the FEIS.

3. Suspended Particulates/Turbidity: Due to the extensive areas of proposed earth disturbance, including clearing, grading, pit excavation, surface dewatering, and reclamation activities, this project has the potential to result in increased sediment transport (Section 3.2.4.2 of the DEIS and FEIS and Section 4.5.5 of the FEIS). In an effort to ensure that mine discharges would not degrade downstream waters, the applicant has proposed a number of measures. These measures include the following: collection of extensive baseline water quality data; development of an extensive plan to control runoff that incorporates the use of chemical flocculants, sediment control ponds, diversions, and restoration, enhancement, and construction of wetlands and riparian buffers; and implementation of a comprehensive monitoring and reporting program. It is expected that with implementation of such measures all discharges would occur within the Total Suspended Solids (TSS) and Total Dissolved Solids (TDS) effluent limits stipulated in the proposed Texas Pollution Discharge Elimination System (TPDES) permit to be issued by TCEQ. The plan, in addition to the required monitoring and reporting, would ensure that the proposed project would not result in substantial temporary or long-term adverse effects to water quality. These measures are further outlined in Section 4.5.5 of the FEIS.

4. Water Quality (temperature, salinity patterns, and other parameters): The summary provided above describes the project's sediment related water quality effects. In addition to sediment transport, the proposed project has the potential to result in nutrient and pesticide loading, release of metals and metalloids, and the production of acid or toxic drainage, accompanied by a decrease in pH and an increase in the levels of iron and manganese contained in TDS (Section 3.2.4.2 of the DEIS and FEIS and Section 4.5.5 of the FEIS). The measures described above relating to sediment transport would also serve, in part, to address these other water quality factors.

The applicant proposes to undertake additional measures to address these other constituents. Such measures would include the following: appropriate use of fertilizers and pesticides, retention of vegetated buffers wherever possible, and the selective handling of overburden and interburden to prevent the development of acid or toxic drainage. Through the implementation of such measures, discharges would likely occur within the TPDES permit effluent limits, for the constituents outlined above, ensuring that the project would not result in substantial short-term or long-term adverse water quality impacts. Based on an evaluation of available data, the proposed project would not result in the degradation of water quality in the Calvert Bluff or Simsboro aquifers. The potential effects to the nearby Carizzo aquifer were also evaluated. Based on this evaluation it appears that the proposed project would have no water quality impacts on the Carrizo aquifer, which is located 3 miles to the southeast of the project site and is hydraulically separated from the lower Calvert Bluff and Simsboro aquifers (Section 3.2.3.2 of the DEIS and FEIS and Section 4.5.4 of the FEIS).

5. Flood Control Functions: The proposed project would result in a number of watershed changes as a result of the construction of surface water control structures and end lakes and the release of groundwater discharges. Based on hydraulic and hydrologic analyses, it is expected that the 100-year, 24-hour peak flow rates for Big Sandy Creek, Chocolate Creek, and Middle Yegua Creek, the major receiving waterways, in addition to their tributaries, would be decreased downstream of the mine but would be maintained for a slightly longer duration, as compared with pre-disturbance rates and durations. This evaluation included the survey of stream cross sections and modeling of hydrologic data in accordance with the USACE HEC-1 Flood Hydrograph Model. The pre- and post-disturbance flows are shown in Table 3.2-9a on page 3.2-71a of the FEIS.

Additionally, the effects of depressurization discharges were evaluated in the context of the smaller 2-year, 24-hour event, as the result of these discharges would potentially have a greater effect during a smaller, more frequent precipitation event. Based on the outcome of this modeling it is expected that the depressurization discharges would be quite small in comparison with peak storm runoff estimates, would generally remain within the banks of existing channels, and would not result in increased erosion and flooding (pages 3.2-7 through 3.2-7c and Section 4.5.5 of the FEIS).

6. Storm Wave and Erosion Buffers: These features, which are characteristic of large waterbodies, would not be affected by the proposed project, since large waterbodies such as lakes and rivers do not occur within the proposed area of disturbance, nor would such areas be indirectly affected by the proposed project.

7. Erosion and Accretion Patterns: Erosion and accretion patterns would be substantially altered within the proposed areas of earth disturbance, as streams, ponds, and wetlands would be filled and incrementally restored. Based on an analysis of these patterns, it is expected that downstream reaches of waterways would experience relatively minor changes in erosion and accretion patterns; the overall channel geometry would remain essentially unchanged. Because the proposed watershed modifications

would result in reduced 100-year, 24-hour peak flows, compared with pre-disturbance conditions, it is expected that erosion would generally remain unchanged throughout most receiving water reaches. The main areas that could sustain limited increases in erosion would be those stream reaches located immediately downstream of the proposed end lakes. In these areas, end lakes would function as sediment control features. Under pre-disturbance conditions, natural erosion currently occurs within the ephemeral and intermittent streams found in the project area. These erosive conditions are caused by relatively high peak flows combined with the erosive soils that underlie most of the project area. Consequently, construction of impoundments on streams such as these would likely result in changes in channel geometry accompanied by streambank instability for relatively short distances downstream. This would occur as a result of changes in watershed dynamics causing the stream to replace sediment captured within the impoundment. Additionally, as observed within reference reaches of streams located downstream of other existing mine outfalls, it is predicted that streams would likely experience limited aggredation for relatively short distances. This aggredation would be due to the overall watershed modifications that would attenuate peak flows and reduce the frequency of channel-forming discharges (Sections 3.2.4.2 and 3.2.5.2 of the DEIS and FEIS and Section 4.5.5 of the FEIS).

8. Aquifer Recharge: The proposed project would result in direct impacts to two aquifers, the Calvert Bluff aquifer and the Simsboro aquifer. The Calvert Bluff is referred to as an aquifer; however, this formation is not a true aquifer, as it contains water in sand channels and discontinuous sand-rich units that are found within predominantly clays and silts. The Simsboro is a true aquifer. The proposed project would affect approximately 5 percent of the total Calvert Bluff outcrop area. Recharge, primarily as a result of precipitation, would continue to occur over the undisturbed 95 percent of the Calvert Bluff outcrop and from infiltration of water from the end lakes (Section 3.2.3.2 of the DEIS). As described in Section 3.2.3.2 of the DEIS, the elevation of the potentiometric surface of the Simsboro aquifer would decrease in the vicinity of the mine during active mining. This effect would result in an associated decrease in recharge rate. Under current conditions, a substantial amount of potential Simsboro recharge is rejected or lost to the aquifer as a result of aquifer saturation. Therefore, the project is not likely to result in a measurable effect on Simsboro recharge.

9. Baseflow: Ephemeral streams in the project area flow solely in response to precipitation events, and therefore do not exhibit baseflows. Based on analysis of intermittent streams within the area of disturbance and reaches of intermittent streams surrounding the project area, gaining reaches of Big Sandy Creek, Middle Yegua Creek, and Walleye Creek would likely experience minor decreases in baseflows as a result of groundwater withdrawal from the Simsboro aquifer (Section 3.2.4.2 of the FEIS). Although these decreases are predicted to be small, they are difficult to quantify in this situation because baseflows, which are estimated at ranges between 0.5 cfs and 1.0 cfs, vary seasonally and annually and are typically non-existent during late summer and early fall. Additionally, it is expected that the construction of end lakes would result in decreased watershed yields as a result of the evaporation of approximately 1,724 acre-feet of water per year, cumulatively, for both end lakes (Section 3.2.4.2 of the FEIS).

10. Mixing Zone: No direct impacts would occur to perennial streams.

B. Biological Characteristics and Anticipated Effects (Subparts D and E):

1. Special Aquatic Sites: The project would adversely impact approximately 5.3 acres of emergent wetlands as a result of filling activities. These wetlands would be replaced at a 2:1 ratio in accordance with the Mitigation Plan. This replacement would occur through the restoration of on-site wetlands and construction of wetlands at the nearby Middle Yegua Creek mitigation site. All restored and created wetlands would be situated in appropriate landscape positions and would be planted with a variety of hydrophytic species to provide water quality, wildlife, and aquatic resource benefits.

Approximately 73.5 acres of waters of the U.S., including special aquatic sites, are located outside of the area of earth disturbance but occur within the area of the projected Simsboro 10-foot drawdown. Many of these areas are ephemeral streams, wetlands, and ponds that do not receive groundwater contribution from the Simsboro aquifer and would therefore be unaffected by the potential drawdown. The remaining streams, ponds, and wetlands may be indirectly adversely impacted, depending on their hydrologic source. Although these potential effects could alter waters of the U.S., it is not likely that any areas would be converted to uplands. Reasonable efforts have been made to assess these impacts; however, for reasons described in Sections 3.2.4.2 and 3.2.5.2 of the FEIS, these impacts have not been quantified. Consequently, the applicant has incorporated an additional environmental protection measure described in the Mitigation Plan that would address this potential impact.

2. Fish and Wildlife Habitat: The project would adversely affect terrestrial wildlife habitat through the clearing of several hundred acres of vegetation annually. The most significant adverse impact to wildlife would be temporary and permanent loss or alteration of habitat caused by construction and operation of the proposed project. These impacts could result in the direct loss of small less mobile wildlife species and the displacement of more mobile species. If adjacent habitats are near carrying capacity, some decrease in local populations could occur. Upon final reclamation, a total of 4,520 acres would be restored as wildlife habitat. Relative to aquatic species, direct and indirect adverse impacts would occur as a result of the removal and sequenced restoration of streams, ponds, and wetlands, in addition to the overall changes in watershed dynamics. One of these changes would be the addition of, and ultimate cessation of, depressurization flows, which would provide long-term temporary sustained flows in some streams that previously experienced no base flows. These effects would be beneficial to some species, while detrimental to others, depending on their specific habitat requirements (Section 3.5.2.1 of the DEIS and FEIS). There would be a 20 to 22 month timeframe between disturbance and restoration for any given phase. During this time, and for some period following, habitat for both terrestrial and aquatic species would be reduced. To compensate for these temporal impacts, the applicant has proposed mitigation measures that would benefit both terrestrial and aquatic species.

3. Threatened and Endangered Species: The USACE analyzed the direct and indirect impacts to threatened and endangered species associated with the proposed project. As a result of this evaluation, the USACE determined that the project may affect, but is not likely to adversely affect, the federally endangered Houston toad (*Bufo houstonensis*). In a letter from the USFWS, dated September 4, 2002 (Appendix G of the FEIS), the USFWS concurred with the USACE's determination and stated in their letter that the proposed project is not likely to adversely affect any federally listed threatened or endangered species. Additional discussions relative to special status species and species of special concern are presented in Section 3.5.2.1 of the DEIS and FEIS.

4. Biological Availability: This issue considers possible contaminants in dredged or fill material. Factors considered include: hydrography in relation to known or anticipated sources of contaminants; results of previous testing of on-site materials; known significant sources of persistent pesticides from land runoff or percolation; spill records for petroleum products or hazardous substances pursuant to Section 311 of the Clean Water Act; and other public records of significant introduction of contaminants from industries, municipalities, or other sources. On-site dredged material would be discharged into waters of the U.S. In addition, approximately 18,225 tons of recycled bottom ash would be used annually for road surfacing material (page 2-39 of the FEIS). Based on the characterization of the dredged materials and an assessment of the potential effects of the use of bottom ash, including bottom ash laboratory analyses, found on pages 4-44 to 4-45 and 4-14 to 4-23, respectively, of the FEIS no evidence exists that would suggest the material would contain toxic pollutants. Therefore, in accordance with 40 CFR Part 230.60(c), no further chemical or biological testing is required to make the factual determination for this fill material.

C. Human Use Characteristics and Anticipated Effects (Subpart F):

1. Existing and Potential Water Supplies: The proposed project would adversely impact existing and potential groundwater supplies by reducing water quantities available for private and municipal use. The degree of impact would vary depending on the location of a well relative to the drawdown area. The adverse effects associated with dewatering and depressurization pumpage would occur over the 25-year life of the mine and for approximately 100 years after cessation of mining. An analysis of the areas of potential adverse effect is provided in Section 3.2.3.2 of the DEIS and FEIS. Groundwater monitoring and mitigation measures are summarized in Section 4.5.5 of the FEIS and in the Mitigation Plan.

2. Water-related Recreation: No public or private water-related recreational resources occur within the project area. Consequently, the proposed project would have no effect on water-related recreation (Section 3.9.2.1 of the FEIS). The applicant proposes to construct approximately 722 acres of end lakes. The applicant may work with Texas Parks and Wildlife Department or other interested parties to establish recreational activities in and around the proposed end lakes.

3. Aesthetics: The proposed project would have adverse effects on the visual aesthetic value of the area for the entire life of the mine. The greatest effect would occur within the mining area, with lesser effects in the permit area beyond the area of earth disturbance. These visual impacts would occur as a result of the construction of the mine and ancillary facilities and mine operation and would include the following: clearing of vegetation, construction of buildings and roads, operation of draglines, fugitive dust generated by the processing and conveyance of lignite, use of night lighting, and earthwork associated with reclamation activities. The extent and location of these effects would change over the 25-year life of the mine (Section 3.12.2.1 of the DEIS and FEIS). The applicant proposes to implement a number additional of environmental protection measures described in the Mitigation Plan that would reduce the overall aesthetic impacts, including the following: establishment and retention of vegetated buffers and visual screening; the reclamation of landforms with characteristics that mimic those occurring naturally in the region; and the use of water for suppression of fugitive dust.

4. Parks, National and Historical Monuments, Wild and Scenic Rivers, Wilderness Areas, Research Sites, etc.: The project is not located within, or in close proximity to, any parks, National and Historic Monuments, Wild and Scenic Rivers, Wilderness Areas or any similar sites (Section 3.9.1 of the FEIS).

5. Traffic/Transportation Patterns: Overall, the most notable transportation effect associated with the project would be in temporary time delays to the traveling public during construction of road relocations. Temporary time delays would also occur for brief periods during the construction of the transportation and utility corridor from the Sandow Mine and for minor periods of time when traffic is delayed to permit the crossing of a dragline at a public road. The effect of proposed roadway reroutes would vary depending on the specific roadway and would range from an increase of 1.1 mile to a decrease of 1.1 mile. Additionally, minor increases in traffic on local roads associated with the employment of approximately 150 individuals during construction and approximately 260 individuals during operation would occur during the life of the mine (Section 3.11.2.1 of the DEIS and FEIS).

6. Energy Consumption, Generation, and Conservation Potential: Energy for the proposed project would be supplied primarily by lignite, electricity, and diesel fuel. The 7.0 million tons of lignite mined annually would be used to fuel the Rockdale power generating facility to meet the energy requirements of the applicant's aluminum smelter. Electricity would be used to power the dragline and ancillary facilities, pump water, and provide lighting for mining activities. On an annual basis, the electrical load is estimated to be 10 megawatts, and the diesel fuel requirement is estimated to be 3.5 million gallons. This project would have no effect on energy consumption or generation as it pertains to the use of natural gas (Section 3.16 of the DEIS).

7. Navigation: No navigable waters of the U.S. under Section 10 of the River and Harbors Act of 1899 are present within the project site. Therefore, the project would not affect any navigable waters (Table 1-1 and Section 3.2.5.1 of the FEIS).

8. Safety: The proposed project has minimal potential to affect the safety of the general public. To address the issue of workplace safety, the applicant would employ a mine safety plan that would incorporate numerous workplace safety measures. These measures are currently implemented at the applicant's existing Sandow Mine and Rockdale facilities and have been shown to be effective at minimizing risk to workers.

9. Air Quality: The project would result in limited adverse impacts to air quality. These effects would be associated with the storage and use of gas and diesel to operate equipment, clearing and burning of vegetation, and the release of fugitive dust associated with the mining, blending, and transport of lignite (Section 3.8.2.1 of the DEIS and FEIS). The applicant proposes to perform a number of additional environmental protection measures described in the Mitigation Plan that would minimize these effects, including control of fugitive dust and the construction and maintenance of vegetated buffers.

10. Noise: The proposed project would result in noise emissions and impacts associated with mine construction and operation activities. Such emissions would be most notable at certain nearby receptors and at times would exceed the HUD standard of 65dBA (Ldn) (Section 3.12.2.1 of the DEIS and FEIS). The applicant has proposed to undertake several measures to minimize noise emissions. These measures, which are described in the Mitigation Plan, include the following: minimizing the simultaneous operation of major noise producing equipment; re-orienting equipment whenever possible to redirect noise emissions; the use of stockpile areas as sound barriers, particularly at times when large equipment would be operating at or near the surface; and the evaluation and application of sound control methods.

11. Historic Properties: In a letter dated November 5, 2003, the State Historic Preservation Office (SHPO) provided comments on the DEIS for the project. The SHPO comments included concerns relative to the following issues: traffic impacts to the Elgin National Register Historic District (NRHD); rerouting of Highway 696 affecting historic houses; changes to air quality affecting historic properties; and effects of mining as an audible impact on historic properties. As described in Sections 4.5.7 and 4.5.11 of the FEIS, the USACE has considered the potential impacts of the project relative to the Elgin NRHD and has determined that there would be no adverse effects.

The entire project area has been fully surveyed for cultural resources. Relative to on-site impacts, five sites that occur within the project area appear to be eligible for the National Register of Historic Places (NRHP). Additionally, three sites lack final determination of NRHP eligibility, and three more sites require additional testing information prior to NRHP decisions. The work on these sites is currently in progress. Final determination of impacts to historic properties would require final information on the NRHP status by the

historic properties consultant (Section 3.7.2.1 of the DEIS and FEIS). If any of the listed or eligible NRHP properties would be affected by mine operation, a memorandum of agreement (MOA) would be developed between the SHPO, the USACE, and the applicant to avoid, mitigate, or reduce the impacts. Under Section 106 of the National Historic Preservation Act and 36 CFR 800, the completed agreement document would be provided to the Advisory Council on Historic Preservation after agreement and signature. A special condition that would incorporate the final MOA could be added to any permit issued for the project.

12. Land Use Classification: Overall the project would result in minimal long-term effects on land use. Short-term impacts would involve the phased mining and reclamation of areas to rural uses such as agricultural and wildlife habitat and limited residential development typical of the surrounding areas (Section 3.9.2.1 of the FEIS).

13. Social and Economic Values: The proposed project would result in continued employment for the 210 full-time employees currently located at the applicant's existing Sandow Mine, the hiring of approximately 50 additional contract employees that would assist with mine operations, and the hiring of approximately 150 contract construction workers that would be employed to work on mine site preparation and construction. The project would result in increased mine-related tax revenues for Lee and Bastrop Counties. It is likely that for short periods of time, typically a number of months, nearby residences would experience a slight decline in property values. These decreases are expected to rebound as mining progresses away from residences and reclamation is implemented (Section 3.10.2.1 of the FEIS).

14. Soils and Prime Farmland: The project would involve the disturbance of a total of 8,648 acres of soils during the life of the mine. These activities have the potential to result in changes in soil chemistry and soil loss through erosion. Potential adverse impacts associated with these disturbances would be minimized through the implementation of erosion control measures and the selective handling program described in Section 2.5.2.6 of the FEIS and Section 3.3.2.1 of the DEIS, concurrent reclamation, and implementation of the Best Management Practices described in the Mitigation Plan.

Approximately 56 acres of prime farmland would be temporarily impacted as a result of mine construction and operation. Soils excavated from these areas would be salvaged in separate layers, to a depth of 4 feet, stockpiled, and re-applied to achieve final reclamation. If required, soil amendments would be applied. Upon completion of reclamation, post-mine productivity of these areas would be evaluated and compared with nearby undisturbed prime farmlands. This restoration would be deemed successful when productivity of reclaimed prime farmland meets or exceeds that of nearby undisturbed prime farmland (Section 3.3.2.1 of the DEIS).

15. Food and Fiber Production: The project would impact approximately 6.0 acres of cropland. No long-term impacts would occur, since these areas would be reclaimed as cropland upon reclamation (Sections 3.3.2.1 and 3.3.4 of the DEIS and FEIS).

16. General Water Quality: As outlined above, due to the expansive areas of proposed earth disturbance, including clearing, grading, pit excavation, surface dewatering, and reclamation activities, this project has the potential to result in increased sediment transport. In addition to sediment transport, the project has the potential to result in nutrient and pesticide loading, release of metals and metalloids, and the production of acid or toxic drainage, accompanied by a decrease in pH and an increase in the levels of iron and manganese contained in TDS. The applicant proposes to undertake a number of measures identified in the Mitigation Plan to address sediment and other constituents. It is expected that through the implementation of such measures, discharges would occur within the TPDES permit effluent limits, for the constituents outlined above, ensuring that the project would result in minimal short-term or long-term adverse water quality impacts (Section 3.2.4.2 of the DEIS and FEIS).

17. Mineral Needs: As result of the proposed project, approximately 7 million tons of lignite would be removed on an annual basis for a period of 25 years. Oil and gas resources located beneath the lignite seams would remain unaffected. The project would cause a loss in clay resources (Section 3.1.2.1 of the FEIS).

18. Consideration of Private Property: The area of earth disturbance associated with the proposed project would be 8,648 acres. Approximately 6,401 acres are owned and/or leased by CPS, approximately 1,930 acres are owned and/or leased by the applicant, and approximately 317 acres are currently uncontrolled by the applicant. As described above, as a result of the construction and operation of the proposed project it is likely that nearby residences would experience a slight decline in property values for short periods of time, typically a number of months. These decreases are expected to rebound as mining progresses away from residences and reclamation is implemented (Section 3.10.2.1 of the FEIS).

19. Hazardous Materials: The project would involve the transportation, storage, and use of various hazardous chemicals. With the exception of fuels and lubricants, these chemicals would be used in limited quantities and would be transported and stored in accordance with applicable federal and state regulations. It is unlikely that the project would result in adverse effects associated with the use and handling of hazardous chemicals (Section 3.13.2.1 of the DEIS and FEIS).

20. Environmental Justice: Minority populations in the vicinity of the project site do not exceed population thresholds specified in federal guidelines that would trigger environmental justice concerns. Consequently, no disproportionate adverse effects to minority populations would occur (Section 3.15.1 of the DEIS).

21. Public Health: Public health effects associated with the proposed project would include the following: potential water quality effects associated with mining, stockpiling of materials, use of chemicals, and reclamation; air quality impacts associated with mine-related air emissions; and effects of light and noise on sensitive receptors. With implementation of the environmental protection measures outlined in the Mitigation

Plan, the proposed project is not expected to result in substantive adverse health effects (Section 3.14.1.1-3.14.1.4 of the DEIS and FEIS).

D. Summary of Secondary and Cumulative Effects: The proposed project would result in secondary and cumulative impacts associated with substantial watershed modifications, as discussed in Section 3.2.4.3 of the DEIS and FEIS. In an effort to reduce these secondary and cumulative impacts, the applicant would implement the Mitigation Plan including a number of environmental protection measures. The most notable cumulative impacts associated with the project would be related to the pumpage of depressurization water from the Simsboro aquifer. These impacts are outlined in Section 3.2.3.3 of the DEIS and FEIS. The applicant would pump only the amount of groundwater needed for dewatering and depressurization. If groundwater pumpage associated with other activities were to affect (reduce) dewatering and depressurization pumpage needs, the applicant would reduce their groundwater pumpage rates accordingly.

Analyses have been performed to assess the cumulative effect that the proposed project, in addition to projected municipal groundwater pumpage, would have on the Colorado River. Based on this analysis, it has been estimated that the total reduction in Colorado River baseflow would be approximately 1.97 cubic feet per second (cfs). This reduction would be in the context of an average annual flow rate, which ranges between 1,000 and 5,000 cfs, with low flows ranging from 500 to 1,000 cfs. This 1.97 cfs decrease in baseflow would represent a minimal quantity, approximately 0.4 percent, of the current Colorado River low flows (Section 4.5.5 of the FEIS).

Additional cumulative impacts associated with other resources have been determined to be minimal and would include the following: geology and mineral resources (Section 3.1.3 of the DEIS and FEIS), soils (Section 3.3.3 of the FEIS), vegetation (Section 3.4.3 of the DEIS), paleontological resources (Section 3.6.3 of the DEIS), air quality (Section 3.8.3 of the DEIS and FEIS), land use and recreation (Section 3.9.3 of the FEIS), social and economic values (Section 3.10.3 of the DEIS and FEIS), transportation (Section 3.11.3 of the DEIS), and noise and visual resources (Section 3.12.3 of the DEIS). The secondary and cumulative effects of the proposed project relative to cultural resources (Section 3.7.3 of the FEIS) would not be significant. The proposed project would have minimal cumulative impacts to hazardous materials (Section 3.13.3 of the DEIS and FEIS) and public health (Section 3.14.1 of the FEIS).

VIII. FINDINGS

A. 401 Water Quality Certification: This project is a Tier II project as detailed in the "Memorandum of Agreement Between the U.S. Army Corps of Engineers and the Texas Commission on Environmental Quality on Section 401 Certification Procedures" dated August 17, 2000 (MOA). The TCEQ has not yet acted on the applicant's request for water quality certification under Section 401 of the Clean Water Act. In accordance with the MOA, the USACE will provide the TCEQ with a copy of this permit decision

document when finalized. The TCEQ will then make its determination whether the project will comply with state surface water quality standards in accordance with Section 401 of the Clean Water Act. The USACE will provide a permit decision to the applicant when the procedures outlined in the MOA have been completed.

B. Other Permit Authorizations and Approvals: In addition to the permits listed above, the proposed project requires a number of additional permits, including authorizations and approvals in accordance with the regulations and requirements listed below. Due to the varied timelines associated with specific components of the overall project, some permits and approvals have been obtained, while others are either undergoing agency review or would be submitted for review at a future date, as appropriate.

1. Railroad Commission of Texas (RRC) permit under Title 16, Part 1, Chapter 12 of the Texas Administrative Code (TAC). Permit issued March 11, 2003.

2. TPDES permit under 30 TAC § 305.71. A draft permit, TPDES Permit No. 04348 was issued on March 21, 2002. The final permit was issued on August 20, 2003.

3. TCEQ Air Quality permit under TAC Title 30 §116.116(b). Permit No. 7084, issued January 24, 2003.

4. TCEQ Solid Waste Registration under 30 TAC 335.1, 30 TAC 335.6, and 30 TAC 335.24. Status uncertain.

5. TCEQ Water Rights permit under Texas Water Code §11.143. Permit application would be submitted to TCEQ prior to commencement of end lake construction, an activity that would occur near the end of mining activities in approximately 25 years.

6. Mine Safety Health Administration (MSHA) Ground Control Plan, I.D. No. 41-04085. Approved by letter dated January 24, 2003, under 30 CFR 77.1000-1.

7. Federal Communications Commission (FCC) Radio Station Authorization permit: FCC Registration Number (FRN): 0003196292. Granted on June 10, 2002, pursuant to 47 U.S.C. Section 309(h) – Section 309(h) of the Communications Act of 1934, as amended.

8. Texas Department of Health Radioactive Materials License under 25 TAC § 289.255. Alcoa's Radioactive Materials License No. L04316 was approved in 1989. The license is renewed every 5 years. This license covers the radioactive materials used for well logging that are stored at the Sandow Mine. If, in the future, the radioactive materials are stored at the Three Oaks Mine, another license will be necessary. In April 2004, Alcoa plans to apply for a license for the radioactive materials that would be used at the Three Oaks blending facility in the on-line analyzer for the conveyor.

9. Texas Department of Transportation approval for state road relocations under a donation agreement pursuant to 43 TAC §§ 1.500 – 1.506. Approved by the Texas Transportation Commission by Minute Order 109310 on June 26, 2003.

10. TCEQ open burning notification under 30 TAC §§ 111.201 – 111.221. Notification pending.

11. Lee County Sheriff open burning notification under the Texas Clean Air Act, Subchapter E, Authority of Local Governments (see Health and Safety Code, Title 2, §382.115). Notification pending.

12. Bastrop County Sheriff open burning notification under Texas Clean Air Act, Subchapter E, Authority of Local Governments (see Health and Safety Code, Title 2, §382.115). Notification pending.

13. Bastrop County Commissioners Court approval for county road relocations under Transportation Code § 251.051. The Bastrop County Commissioners' Court approved and passed the necessary county road relocations by resolution dated April 28, 2003.

14. Lee County Commissioners Court approval for county road relocations under Transportation Code § 251.051. Lee County Commissioners' Court approved and passed the necessary county road relocations by resolution dated September 10, 2001.

15. Lee County permit for floodplain modifications under Texas Water Code § 16.3145. Lee County Floodplain Development Permit No. 102 was issued on November 26, 2001.

16. Bastrop County permit for floodplain modifications under Texas Water Code § 16.3145. Bastrop County Floodplain Development Permit No. 18636 was issued on February 21, 2003.

C. Summary of Comments Received on the FEIS and USACE Responses: The USACE received 21 letters of comment on the Three Oaks Mine FEIS. A summary of the comments, together with the USACE's responses, follows:

1. Federal Agencies: None received.

2. State and Local Governments and Entities:

    a. Texas Commission on Environmental Quality (TCEQ):

Comment: The TCEQ identified an error in the units in Table C-11; stated that their comments on the DEIS had been adequately addressed; they are prepared to review the USACE's Record of Decision (ROD) and render a decision on the Section 401 water quality certification.

Table C-11[1]

Current Surface Water Criteria for Selected Toxic Constituents[1] (µg/l)

Constituent[2]	Brazos River Basin			Colorado River Basin		
	Aquatic Life - ToxicAcute	Aquatic Life - Chronic	Human Health[3]	Aquatic Life – ToxicAcute	Aquatic Life - Chronic	Human Health[3]
Aluminum, d	991	--	--	991	--	--
Arsenic, d	360	190	50	360	190	50
Barium, d	--	--	2,000	--	--	2,000
Cadmium, d	49.64 (44.9)	1.48 (3.2)	5	61.3 (48.1)	1.72 (3.3)	5
Chromium III, d	2,300 (414)	274 (197)	100[4]	2,682 (435)	319.6 (207)	100[4]
Chromium V, d	16 (15.7)	11 (10.6)	--	16 (15.7)	11 (10.6)	--
Copper, d	26.5 (31.0)	17.2 (22.4)	--	32.9	23.6	--
Lead, d	126.4 (88.6)	4.93 (1.3)	5	160.4 (95.7)	1.83 (1.4)	5
Mercury, t	2.4	1.3	0.0122	2.4	1.3	0.0122
Nickel, d	1,897 (1,255)	210.8 (195.5)	--	2,222 (1,321)	247.0 (205.8)	--
Selenium, t	20	5	50	20	5	50
Zinc, d	156.5 (149.5)	141.8 (138.5)	--	183.4 (157.3)	166.2 (145.8)	--

[1]This table replaces Table C-11 of the Draft EIS in its entirety.

[1]Current values are for protection of the uses shown, with an assumed water-effects ratio of 1.0. Values in parentheses are proposed.
[2]d = dissolved, t = total.
[3]Public water supplies are uses listed for the study area.
[4]Form not specified for chromium.

Source: TAC 2000a; TNRCC 1997.

Response: The USACE acknowledges that a transcription error was made and that this error did not affect the evaluation of impacts. Table C-11 has been revised to reflect the correct units and has been included in the USACE record for this project.

b. Milam County Commissioner - Burke Bauerschlag:

Comment: The commenter expressed support for the proposed Three Oaks Mine, including prospective jobs and Alcoa's previous mine reclamation.

Response: Comment noted.

c. Rockdale Independent School District:

Comment: The commenter expressed support for the proposed Three Oaks Mine, including prospective jobs and Alcoa's previous mine reclamation.

Response: Comment noted.

d. Thorndale Independent School District

Comment: The commenter expressed support for the proposed Three Oaks Mine, including the benefits of future jobs and associated effects to the community. The commenter praised the proposed water quality and aquatic habitat mitigation measures.

Response: Comment noted.

e. City of Thorndale

Comment: The commenter expressed support for the proposed Three Oaks Mine, including the benefits of future jobs and effects to the local community services. The commenter praised Alcoa's previous mine reclamation and expressed support for additional aquatic habitat to be created as mitigation.

Response: Comment noted.

f. Rockdale Chamber of Commerce

Comment: The commenter expressed support for the proposed Three Oaks Mine, particularly the proposed jobs in the local community.

Response: Comment noted.

g. Milam County Judge – Frank Summers

Comment: The commenter expressed support for the proposed Three Oaks Mine. The commenter acknowledged the resolution of previous issues raised by the Lower Colorado and Brazos River authorities and Alcoa's commitment to mitigation of identified effects. The commenter also acknowledged the prospective jobs and Alcoa's previous reclamation efforts.

Response: Comment noted.

h. City of Lexington

Comment: The commenter expressed support for the proposed Three Oaks Mine, including prospective jobs.

Response: Comment noted.

i. City of Rockdale

Comment: The commenter expressed support for the proposed Three Oaks Mine, including EIS mitigation creating additional aquatic habitat and prospective jobs.

Response: The USACE acknowledges the comments.

j. Cameron Chamber of Commerce and Cameron Industrial Foundation

Comment: The commenter expressed support for the proposed Three Oaks Mine, including the benefits of prospective jobs and associated community services. The commenter praised Alcoa's previous mine reclamation and water quality protection efforts.

Response: Comment noted.

k. City of Cameron

Comment: The commenter expressed support for the proposed Three Oaks Mine, including prospective job opportunities.

Response: Comment noted.

l. Lower Colorado River Authority (LCRA)

(1) Comment: LCRA recommended additional water quality monitoring.

Response: Alcoa has agreed to additional monitoring for dissolved metals in the Big Sandy Creek watershed for a minimum of 10 years from the onset of discharge in the watershed, satisfying the concern.

(2) Comment: LCRA recommended that the USACE examine the variability in the hydraulic separation between the Calvert Bluff and Simsboro Formations to determine potential cross-formation water quality impacts in areas where the separation is below the average.

Response: The analysis of potential flow from the Calvert Bluff to the Simsboro Formation considered the actual variability in the thickness of the clay layer separating these two formations based on geotechnical drill-hole data collected within the Three

Oaks Mine permit area. The estimated separation range is 11 feet to 175 feet within this area. In response to LCRA's comment on the DEIS regarding the variability in this clay layer, the USACE developed a spreadsheet estimating the range of potential seepage through this layer based on the range of thickness of the clay layer (see the response to comment 75-2 in the FEIS). It should be noted that these estimated ranges are hypothetical, as pump test data from nested wells in the permit area showed no hydraulic communication across the clay layer separating the two formations.

(3) Comment: LCRA recommended additional mitigation to model and study the interaction between the Simsboro aquifer and surface water flow in the Colorado River basin.

Response: As indicated in Section 3.2.3.2 in the FEIS, the Proposed Action is anticipated to have short-term (up to 20 years) impacts on groundwater levels and groundwater flow in the Simsboro aquifer near the Colorado River. A decline in water levels in the unconfined part of the Simsboro near the Colorado River would occur over a 1- to 2-mile stretch of the Simsboro outcrop and would not be likely to measurably affect flow in the Colorado River. Municipal pumpage, especially pumpage in Bastrop County, may affect flow in the Colorado River over the next 50 years. A study of this nature may be useful in estimating future impacts of municipal pumpage on the Colorado River; however, the USACE does not consider such a study to be appropriate mitigation for impacts associated with the proposed Three Oaks Mine.

(4) Comment: LCRA praised the USACE's investigation of stream morphology impacts of Sandow Mine discharges to Yegua Creek. LCRA requested a copy of this investigation.

Response: The USACE will provide LCRA with a copy of the requested report.

(5) Comment: LCRA reiterated their support for specific mitigation measures identified in the FEIS. LCRA identified their intent to monitor macroinvertebrates and fish communities in Big Sandy Creek beginning in 2004. LCRA praised the mitigation to develop an off-site mitigation area in the Colorado River basin.

Response: Comment noted.

(6) Comment: LCRA requested a copy of the delineation report of wetlands and other waters of the U.S., including wetlands.

Response: The USACE will provide LCRA with a copy of the requested report.

3. Organizations, Businesses, Individuals, and Others

a. John and Anna Franklin

Comment: The commenter expressed frustration regarding the NEPA process and declined to provide additional comment on the Final EIS.

Response: Comment noted.

b. Herbert Johns

Comment: The commenter expressed concerns regarding: 1) the proposed relocation of roads that would increase local travel distances, 2) anticipated negative effects on local property values near the mine, and 3) anticipated negative effects on local quality of life.

Response: The effects of the proposed road relocations were addressed in Section 3.11.2 of the DEIS. The net travel distance effect on major routes would range from an increase of 1.1 miles to a decrease of 1.1 miles. At highway speeds, this equates to time increments of approximately 80 seconds. The effects of the proposed mine on local property values were addressed in Section 3.10.2 of the FEIS. While mine development and operations may influence the level of demand for nearby residential properties, this is only one of many factors expected to affect local property values over the next 25 years. If local property values are diminished during mining, they are expected to rebound following mining. For most areas, the period when mining would be occurring near enough to influence property values would be on the order of 2 to 3 years. The noise and visual aspects of "quality of life" are addressed in Section 3.12.2 of the FEIS. Noise and visual effects from the operation would be noticeable at a number of residences immediately surrounding the mine, but are not expected to be noticeable at most of the residences in the McDade community.

c. Mona Mehdy and Alice Peden

Comment: The commenter expressed concerns regarding: 1) contribution of resultant lignite combustion to local air degradation, and 2) effects of water pumping on the water table, vegetation, and watersheds.

Response: The potential for cumulative air quality impacts related to the Rockdale facilities and the status of air pollution controls at these facilities are addressed in responses to general comments AQ-1 and AQ-2 in Section 4.5.6 of the FEIS. Operation of the Rockdale facilities is outside the scope of this EIS. The emissions of criteria pollutants and hazardous air pollutants associated with these facilities would be considered in the cumulative impacts if emissions from the proposed Three Oaks Mine construction and operation were determined to add to the emissions of specific pollutants generated by the smelter and power plant facilities. However, because the proposed project is not anticipated to increase the total criteria pollutants or hazardous air pollutants, nor would the activity increase the overall emissions from the Rockdale facilities, cumulative air quality impacts are not anticipated. The direct and cumulative impacts associated with groundwater pumping for dewatering and depressurization of the mine have been identified and are addressed in Sections 3.2.3.2, 3.2.3.2, and 4.5.4 of the FEIS.

d. L. B. Kubiak

Comment: The commenter expressed support for the proposed Three Oaks Mine, including the benefits of prospective jobs and associated community services. The commenter praised Alcoa's previous mine reclamation and environmental protection efforts.

Response: Comment noted.

e. Hugh Brown

Comment: The commenter asserts that the site-specific baseline surveys that were conducted for bird species at the mine site provided inadequate baseline data due to the timing of the surveys (late May and early June). The commenter questions the validity of the related FEIS impact conclusions and the validity of the FEIS as a whole.

Response: The late May to early June survey referenced in the comment was conducted on the reclaimed lands at the Sandow Mine as stated in Section 3.5.1 of the DEIS. Also as stated in Section 3.5.1 of the DEIS, baseline information on general wildlife resources and habitat conditions in the Three Oaks Mine permit and study areas was obtained from existing published sources and site-specific surveys conducted in the spring and summer of 1999 and 2000 and winter of 2000. The specific sources used to establish the baseline conditions for the FEIS wildlife analyses are referenced throughout the general wildlife baseline discussion in the DEIS (see Section 3.5.1 and Table F-1 in Appendix F). Baseline information relative to special status species and species of special concern (including bird species) was obtained from the U.S. Fish and Wildlife Service, Texas Parks and Wildlife Department, Texas Biological and Conservation Data System, and other existing published sources as referenced in Section 3.5.1.5 and Tables F-3 and F-4 in Appendix F of the DEIS. Please see the response to general comment NEPA-1 in Section 4.5.1 of the FEIS relative to the objectivity of baseline data for the EIS as a whole. The USACE determined the baseline surveys were adequate.

f. Greg Barker

(1) Comment: The commenter asserts that the FEIS fails to analyze the possible effects that mine discharge to Mine Creek would have on upstream conditions in Middle Yegua Creek during storm events.

Response: The FEIS includes a comprehensive analysis of potential flooding impacts associated with the proposed Three Oaks Mine. Based on the analysis, the proposed discharges from the Three Oaks Mine would not result in a significant increase in flooding potential. As a result of the establishment of surface water control structures and releasing discharges of storm water and groundwater, the 100-year, 24- hour peak flow rates for Big Sandy Creek, Chocolate Creek, Middle Yegua Creek, and their associated tributaries would be decreased downstream of the proposed mine. The duration of runoff discharge from storm events would be increased slightly due to the effects of sediment and detention ponds and diversions. It is expected that the maximum

flow rates from storms would either remain the same as the pre-mining condition, or would be slightly decreased as a result of flood peak attenuation. Please also see the response to general comment SW-3 in Section 4.5.5 and Section 3.2.4.2 of the FEIS relative to flooding potential.

(2) Comment: The commenter asserts that the baseline water data is not accurate and therefore not appropriate for monitoring purposes. Additionally, the commenter asserts that the FEIS does not identify agency responsibility for monitoring of environmental impacts.

Response: Please see the response to general comment NEPA-1 in Section 4.5.1 of the FEIS relative to objectivity of baseline data. Also see response to comment 51-2 in the FEIS relative to agency oversight of Alcoa's environmental monitoring. The USACE has independently evaluated all baseline data for accuracy and to the extent that data has been used in the EIS, the USACE has determined that data to be adequate.

(3) Comment: The commenter asserts that the quality of the FEIS is deficient.

Response: Comment noted.

(4) Comment: The commenter asserts that recent emission violations at Alcoa's Rockdale power generating units likely will result in: 1) the closure of Alcoa's power units and Rockdale aluminum smelter due to the associated costs of the required upgrades and 2) Alcoa subsequently mining lignite strictly for sale to Texas Utilities, thereby rendering the FEIS analysis invalid.

Response: Please see the response to comments 76-1 and 76-2 in the FEIS relative to power generation options, closure of the Rockdale aluminum smelter as a reasonably foreseeable future action, and clarification of the purpose and need.

(5) Comment: The commenter asserts that the permit should be denied unless the applicant provides funding for an unbiased agency assessment.

Response: An unbiased agency assessment for the proposed project, as described by the commenter has already been undertaken. Please see the response to general comment NEPA-1 in Section 4.5.1 of the FEIS relative to objectivity of FEIS baseline data.

g. Neighbors for Neighbors (NFN)

(1) Comment: NFN asserts that the Three Oaks Mine FEIS relies on flawed assumptions and unsubstantiated information regarding the project purpose and need (i.e., to provide an economic fuel supply for the existing Rockdale power generating station, which supplies power for Alcoa's existing Rockdale aluminum smelter).

Response: Please see the responses to comments 76-1, 76-2, and 76-3 in the FEIS regarding power generation options, closure of the Rockdale aluminum smelter as a reasonably foreseeable future action, and definition of the No Action Alternative relative

to smelter closure, respectively. The response to comment 76-4 describes the rationale for the USACE's reliance on Alcoa information regarding the Proposed Action; also see the response to general comment NEPA-1 in Section 4.5.1 of the FEIS relative to this information. The USACE has independently evaluated all baseline data for accuracy and to the extent that data has been used in the EIS, the USACE has determined that data to be adequate.

(2) Comment: NFN asserts that the FEIS fails to adequately address NFN's concerns regarding potential impacts on water quality standards.

Response: The USACE assumes the commenter is referring to potential impacts to water quality, rather than to water quality standards. The FEIS, in addition to referring to the Clean Water Act Section 401 Certification process (pages 3.2-63/63a of the FEIS), describes the considerable analysis that was conducted relative to potential impacts to surface water quality, including impacts associated with changes in stream flow. Surface water quality impacts are discussed on pages 3.2-83 through 3.2-87 of the FEIS. This issue also is addressed in the response to comment 77-1 in the Final EIS. In addition, TCEQ is in the process of reviewing the 401 Water Quality Certification for the proposed project and will be rendering a permit decision. The USACE has determined the evaluation to be adequate.

(3) Comment: NFN asserts that the USACE did not adequately address NFN's comments on the DEIS regarding aquatic life use classifications of streams potentially affected by the Proposed Action.

Response: As described in the response to comment 77-1 in the FEIS, it is the (TCEQ's) responsibility to assign stream use classifications. The aquatic life use classification of streams within the area potentially affected by the proposed project was established by TCEQ.

(4) Comment: NFN asserts that the FEIS fails to adequately address NFN's concerns regarding groundwater drawdown impacts on the long-term sustainability of the central Carrizo-Wilcox aquifer. NFN indicates that the FEIS does not address project-specific drawdown impacts independent of the cumulative impacts of municipal pumpage, nor does the FEIS address the relationship between Alcoa's proposed pumpage and Alcoa's water contracts with San Antonio.

Response: The FEIS contains independent analyses of the impacts associated with the proposed Three Oaks Mine and the cumulative impacts of the proposed Three Oaks Mine together with other past, present, and reasonably foreseeable future activities in the area. In order to conduct these analyses, the USACE used two different groundwater models to ensure that the project-specific impacts could be differentiated from other actions potentially contributing to cumulative impacts. The USACE considered and analyzed Alcoa's contract with San Antonio Water System, and the City of San Antonio water utility, as a reasonably foreseeable future action with potential cumulative impacts on groundwater, surface water, and other environmental resources. The USACE believes this issue is adequately addressed in the FEIS.

h. Jim Currey Realty

Comment: The commenter expressed support for the proposed Three Oaks Mine, including the benefits of future jobs and associated effects to the community.

Response: Comment noted.

D. Public Hearing Request: The USACE received numerous requests for a public hearing on the proposed project. In response to these requests, a formal public hearing was held on October 2, 2002, at the Elgin High School in Bastrop County, Texas. Seventy individuals presented comments, and oral comments transcribed by a court reporter were also taken on the DEIS. All comments were addressed in the FEIS.

IX. EVALUATION OF THE DISCHARGE OF DREDGED AND FILL MATERIAL IN ACCORDANCE WITH SECTION 404(B)(1) GUIDELINES (40 CFR 230):

A. Evaluation of Compliance with 404(b)(1) Guidelines [restrictions on discharge, 40 CFR § 230.10]. An * is marked above the answer that would indicate noncompliance with the guidelines. No * marked signifies the question does not relate to compliance or noncompliance with the guidelines. An "X" simply marks the answer to the question posed. All chapter and section references are made to the Three Oaks Mine FEIS.

1. Alternatives Test:

	Yes	No
(a) Based on the FEIS and other discussions in this ROD, are there available, practicable alternatives having less adverse impact on the aqatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into "waters of the United States" or at other locations within these waters?	☐	☒
(b) Based on the FEIS and other discussions in this ROD, if the project is in a special aquatic site and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?	☒	☐

2. Special restriction. Will the discharge:

(a) violate water quality standards?	☐	☒
(b) violate toxic effluent standards (under Section 307 of the Act)? Section 307 has been implemented by EPA under 40 CFR Part 129, which lists toxic pollutants with effluents standards that have been promulgated. The proposed discharge does not contain any	☐	☒

toxic pollutants and therefore is in compliance with Part 307 of the Act.

(c) jeopardize endangered or threatened species or their critical habitat? In a letter dated September 4, 2002, the U.S. Fish and Wildlife Service concurred with the USACE's determination that the project is not likely to adversely affect any federally listed endangered or threatened species. ☐ ☒

(d) violate standards set by the Department of Commerce to protect marine sanctuaries? No, there are no marine sanctuaries so designated within the project area. ☐ ☒

(e) evaluation of the information in the FEIS indicates that the proposed discharge material meets testing exclusion criteria for the following reason(s): ☒ ☐

( ) based on the above information, the material is not a carrier of contaminants.

(x) the levels of contaminants are substantially similar at the extraction and disposal sites and the discharge is not likely to result in degradation of the disposal site and pollutants will not be transported to less contaminated areas.

(x) acceptable constraints are available and will be implemented to reduce contamination to acceptable levels within the disposal site and prevent contaminants from being transported beyond the boundaries of the disposal site.

3. Other restrictions. Will the discharge contribute to significant degradation of "waters of the United States" through adverse impacts to:

(a) human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife, and special aquatic sites? ☐ ☒

(b) life stages of aquatic life and other wildlife? ☐ ☒

(c) diversity, productivity, and stability of the aquatic life and other wildlife or wildlife habitat or loss of the capacity of wetlands to assimilate nutrients, purify water, or reduce wave energy? ☐ ☒

(d) recreational, aesthetic, and economic values? ☐ ☒

4. Actions to minimize potential adverse impacts (mitigation). Will all appropriate and practicable steps (40 CFR § 230.70-77, Subpart H) be taken to minimize the potential adverse impacts of ☒ ☐

the discharge on the aquatic ecosystem? Yes, see Section VII of this Record of Decision.

B. Evaluation of Dredged or Fill Material (Subpart G, 40 CFR § 230.60)

1. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material: (checked boxes apply)

a. ☒ Physical characteristics
b. ☒ Hydrography in relation to known or anticipated sources of contaminants
c. ☒ Results from previous testing of the material or similar material in the vicinity of the project
d. ☐ Known, significant sources of persistent pesticides from land runoff or percolation
e. ☒ Spill records for petroleum products or designated (§331 of CWA) hazardous substances
f. ☒ Other public records of significant introduction of contaminants from industry, municipalities, or other sources
g. ☒ Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities

References: Sections 5.3 and 5.5, and Appendix I

2. An evaluation of the information above indicates that there is reason to believe the proposed dredged or fill material is not a carrier of contaminants, or that levels of contaminants are substantively similar at extraction and disposal sites. The material meets the testing exclusion criteria ☒ Yes ☐ No

C. Actions to Minimize Adverse Effects (Subpart H, 40 CFR § 230.70): All appropriate and practicable steps would be taken, through application of recommendation of §230.70-230.77 to ensure minimal adverse effects of the proposed discharge.
☒ Yes ☐ No

D. Findings of Compliance or Non-compliance (40 CFR § 230.12)

1. ☐ The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines.

2. ☒ The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines with the inclusion of the mitigation and monitoring conditions, as discussed in Section VII of this document.

3. ☐ The proposed disposal site for discharge of dredged or fill material does not comply with the Section 404(b)(1) guidelines for the following reasons:

a. ☐ There is a less damaging practicable alternative.

b. ☐ The proposed discharge will result in significant degradation of the aquatic ecosystem.

c. ☐ The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem.

d. ☐ There does not exist sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with these guidelines.

X. Public Interest Considerations: The following items have been reviewed pursuant to 33 CFR 320.4(a):

A. The relative extent of the public and private need for the proposed structure or work. The private need of the applicant is to recover lignite in order to provide a long-term, economically stable fuel supply for the existing Rockdale power generating station, which supplies power for the applicant's Rockdale aluminum smelter. The applicant has estimated that 7.0 million tons of lignite would be recovered annually for a period of 25 years. The proposed project would result in continued employment for the 210 full-time employees currently located at the applicant's existing Sandow Mine, the hiring of approximately 50 additional contract employees that would assist with mine operations, and approximately 150 contract construction workers that would be employed to work on mine site preparation and construction work. The public need to protect and preserve environmental resources could be met through the implementation of the Three Oaks Mine Mitigation Plan, which incorporates extensive measures to protect, restore, and enhance the aquatic environment, other environmental resources, and public interest items identified above. Although the ultimate purpose of the proposed project is not energy production, energy production is an intermediary component of the overall project purpose, which is the production of aluminum. Under Executive Order 13212, dated July 30, 2001, the USACE has been directed to expedite the review and processing of permit actions involving energy projects. Additionally the production and availability of aluminum is an item of public interest. Aluminum is used in numerous consumer products including the following: buildings, beverage containers, chemicals, sporting and recreation equipment, automobiles, and aircraft. Aluminum also has a wide variety of industrial and commercial applications, including its use as solid rocket fuel for the NASA space shuttle program.

B. The practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work. There are no practicable alternatives to relocating or redesigning the proposed project to avoid adverse impacts to waters of the U.S. As described above, alternatives were evaluated that would not require construction of the project including the purchase of electricity from the commercial grid; use of alternate lignite sources, including evaluation of several nearby sites containing lignite reserves, coal imported from the western U.S. and the use of natural gas. Although each of these alternatives was considered in the overall evaluation of alternatives, they were eliminated from the detailed analysis for reasons that are cited in Sections 2.4.1, 2.4.2, and 2.4.3 of the DEIS and FEIS. Additionally, alternative mine layout and operational methods were evaluated. The applicant's preferred alternative

would be the only practicable alternative that would meet the applicant's stated project purpose.

C. The extent and permanence of the beneficial and/or detrimental effects that the proposed structures or work are likely to have on the public and private uses to which the area is suited. As described in the DEIS and FEIS, the proposed project would result in short-term and long-term detrimental effects on public and private uses. Short-term adverse effects include noise and visual impacts (Section 3.12.2.1), minor short-term decline in property values in the vicinity of active mining (Section 3.10.2.1), and inconveniences to the traveling public associated with public road relocations (Section 3.11.2.1). Long-term detrimental effects would include adverse effects to private and municipal wells as a result of the drawdown of either the Simsboro aquifer or the lower third of the Calvert Bluff aquifer (Section 3.2.3.2). Short-term public and/or private use benefits associated with the project include employment of contractors during the construction phase of the project and continued employment of approximately 1,400 jobs directly associated with the aluminum smelter (Section 3.10.2.1). Long-term benefits would include increases of tax revenues to local jurisdictions (Section 3.10.2.1) and substantial roadway improvements for all relocated public roads (Section 3.11.2.1).

XI. DETERMINATIONS:

A. Public Hearing Request:

The USACE received the requests for a public hearing identified above and determined that the issues raised were substantial and should be considered in the permit decision. The USACE conducted a public hearing on October 2, 2002, at 7:30 pm at the Elgin High School, Bastrop County, Texas.

B. National Environmental Policy Act Determination:

This permit action has the potential to significantly affect the quality of the human environment. Therefore, the USACE prepared an EIS.

C. Section 404(b)(1) Compliance/Non-compliance Review (40 CFR 230.12):

The discharge complies with the guidelines, with the inclusion of the appropriate and practicable special conditions listed below to minimize pollution or adverse effects to the affected ecosystem:

1. The permittee shall implement and abide by the Mitigation Plan titled "Mitigation Plan for the Proposed Three Oaks Mine, Lee and Bastrop Counties, Texas, USACE Project Number 199900331" by Horizon Environmental Services, Inc., dated August 1, 2003. The permittee shall implement the Mitigation Plan concurrently with the construction of the project and complete the initial construction and plantings associated with the mitigation work in accordance with the timeframes specified in the above

referenced Plan. Completion of all elements of this Mitigation Plan is a requirement of this permit.

2. The permittee shall be responsible for maintaining all off-site mitigation areas and on-site restoration areas to comply with Special Condition 1 above until such time as the permittee provides documentation to, and receives verification from, the USACE, that areas within the mitigation area intended to become:

a. waters of the United States meet the definition of a waters of the United States under the Regulatory Program regulations applicable on the date of this permit;

b. wetlands that are waters of the United States meet the definition of a wetland under the Regulatory Program regulations applicable on the date of this permit;

c. waters of the United States are functioning as the intended type of waters of the United States and at the level of ecological performance prescribed in the mitigation plan referenced in Special Condition 1 above; and

d. buffer and riparian zones and other areas integral to the enhancement of the aquatic ecosystem are functioning as the intended type of ecosystem component and at the level of ecological performance prescribed in the mitigation plan referenced in Special Condition 1 above.

3. The permittee shall dedicate in perpetuity by deed restriction, as aquatic resource mitigation, the approximately 54.1-acre Middle Yegua Mitigation area, the approximately 51.5 acre Big Sandy Mitigation area, and approximately 70.0 on-site acres, including 30,498 linear feet of Willow Creek and Mine Creek identified in the mitigation referenced in Special Condition 1 above. The only exceptions to the deed restriction shall be easements in existence on August 22, 2003. The mitigation area shall not be disturbed, except by those activities that would not adversely affect the intended extent, condition, and function of the mitigation area. Unless otherwise specified, livestock grazing, mowing, and similar activities are not allowed. The permittee shall survey the mitigation area, develop an appropriate deed restriction for the surveyed area, submit the draft deed restriction to the USACE for review and approval, and record the USACE approved deed restriction with the County Clerk. The permittee shall provide a copy of the recorded deed restriction for the Middle Yegua and Big Sandy Mitigation areas to the USACE by December 1, 2003. The permittee shall provide a copy of the recorded deed restriction for the 70.0-acre on-site area within 60 days of completion of restoration of the 70.0-acre area. The restriction shall not be removed from the deed or modified without written approval of the USACE and conveyance of any interest in the property must be subject to the deed restriction.

4. The permittee shall not initiate any construction for this undertaking that will affect a cultural resource site listed, or eligible for listing, in the National Register of Historic Places (NRHP) within the permit area until the significance of the site and the effects of the undertaking on the site are determined and the USACE has verified compliance with the requirements of 33 CFR Part 325, Appendix C, and 36 CFR Part 800. Cultural resource sites include prehistoric and historic archeological sites, and areas or structures of cultural interest that occur in the permit area. If a previously unknown cultural resource site is encountered during work authorized by this permit, the permittee shall immediately contact the USACE and avoid further impact to the site until assessment by State and Federal cultural resource specialists is complete and the USACE has verified that the requirements of 33 CFR Part 325, Appendix C, and 36 CFR Part 800 have been met.

D. Public Interest (33 CFR 320.4):

Issuance of a Department of the Army permit, with the special conditions listed above, is not contrary to the public interest.

Pursuant to 33 CFR Part 325, I have reviewed and evaluated in light of the overall public interest the documents and factors concerning this permit application, as well as the stated views of other interested agencies and the concerned public. In doing so, I have considered the possible consequences of this work in accordance with 33 CFR Parts 320 to 331 and Part 230, and in particular, those public interest factors set forth in 33 CFR 320.4. I find that the full range of practicable alternatives was identified and adequately addressed in the DEIS and FEIS and that issuance of a Department of the Army Section 404 permit, as prescribed in regulations published in 33 CFR Parts 320 to 331 with the scope of work as described in this document, is based on a thorough analysis and evaluation of the factors described above. Based upon a review of the full range of practicable alternatives, I have determined the applicant's preferred alternative to be the least environmentally damaging practicable alternative that would achieve the purposes for which the work is being performed. This determination considers cost, existing technology, and logistics, in addition to the consideration of impacts to aquatic resources and other public interest factors. I have determined that all administrative requirements have been met and that issuance of a permit for this project with the inclusion of the special condition identified above, is consistent with national policy, statutes, and administrative directives, and is not contrary to the public interest.

XII. SIGNATURE PAGE FOR DEPARTMENT OF THE ARMY RECORD OF DECISION FOR THREE OAKS MINE PERMIT APPLICATION, PERMIT APPLICATION NUMBER 199900331

PREPARED BY: Jennifer R. Walker — 22 August 2003
JENNIFER R. WALKER — DATE
Regulatory Project Manager, Regulatory Branch

REVIEWED BY: Robert F. Scott IV — 22 August 2003
ROBERT F. SCOTT, IV — DATE
Archeologist, Regulatory Branch

Presley B Hatcher — 22 August 2003
PRESLEY B. HATCHER — DATE
Chief, Permits Section, Regulatory Branch

Wayne A. Lea — 22 August 2003
WAYNE A. LEA — DATE
Chief, Regulatory Branch

William Fickel Jr. — 26 August 2003
WILLIAM FICKEL, JR. — DATE
Chief, Planning Environmental and Regulatory Division

for William M Brown — 26 August 2003
ALBERT PROCTOR — DATE
Chief, Office of Counsel

Robert P Morris LTC, EN — 27 AUG 03
ROBERT P. MORRIS, JR. — DATE
Lieutenant Colonel, Corps of Engineers
Deputy District Engineer

APPROVED BY: for Robert P Morris LTC, EN — 27 AUG 03
JOHN R. MINAHAN — DATE
Colonel, Corps of Engineers
District Engineer